Claims

1. A fading pitch detection apparatus comprising:

a plurality of demodulators, connected to a shared reception system, each for demodulating a reception signal through each multipath;

a synthesizer for synthesizing signals outputted from the plurality of demodulators with a phase difference in each multipath being maintained; and

a fading pitch detector for detecting a fading pitch based upon an output signal from the synthesizer.

2. The fading pitch detection apparatus of claim 1, wherein the fading pitch detection apparatus is designed for a CDMA system, and

wherein the plurality of demodulators is a plurality of despreading devices, connected to the shared reception system, for performing despreading for each multipath.

3. The fading pitch detection apparatus of claim 1, wherein the fading pitch detector includes,

an auto-correlation detector for calculating an auto-correlated value of a synthesized output signal from the synthesizer; and

a fading pitch estimation device for calculating the

fading pitch based upon a comparison result between the auto-correlated value and a predetermined threshold value.

4. The fading pitch detection apparatus of claim 3, wherein the auto-correlated value is based upon a time difference of the synthesized output signal; and

wherein the fading pitch estimation device includes,

a comparator for obtaining a minimum value of the time difference with which the auto-correlated value is less than the threshold value, and

a calculator for calculating the fading pitch based upon the minimum value of the time difference.

5. The fading pitch detection apparatus of claim 4, wherein the calculator performs a liner operation.

6. The fading pitch detection apparatus of claim 3, further comprising a transforming device for transforming the synthesized output signal from the synthesizer to electric power,

wherein an output signal from the transforming device is inputted to the auto-correlation detector to obtain the fading pitch.

7. A fading pitch detection apparatus, comprising:

a transforming device for transforming an input signal including a fading-based variation to electric power;

an auto-correlation detector for calculating an auto-correlated value of an output signal from the transforming device; and

a fading pitch estimation device for calculating a facing pitch based upon a comparison result between the auto-correlated value and a predetermined threshold value.

8. The fading pitch detection apparatus of claim 7, wherein the auto-correlated value is based upon a time difference of the output signal from the transforming device, and

wherein the fading pitch estimation device includes,

a comparator for obtaining a minimum value of the time difference with which the auto-correlated value is less than the threshold value, and

a calculator for calculating the fading pitch based upon the minimum value of the time difference.

9. A mobile information terminal, comprising the fading pitch detection apparatus of claim 1.

10. A mobile information terminal, comprising the fading pitch detection apparatus of claim 7.

11. A method for detecting a fading pitch, comprising:

demodulating a reception signal through each multipath by a shared reception system;

synthesizing demodulated signals for each multipath with a phase difference in each multipath being maintained; and

detecting a fading pitch based upon a synthesized output signal.

12. A method for detecting a fading pitch, comprising:

transforming an input signal including a fading-based variation to electric power;

calculating an auto-correlated value of an electric power output signal;

comparing the auto-correlated value with a predetermined threshold value; and

calculating a fading pitch based upon a comparison result.